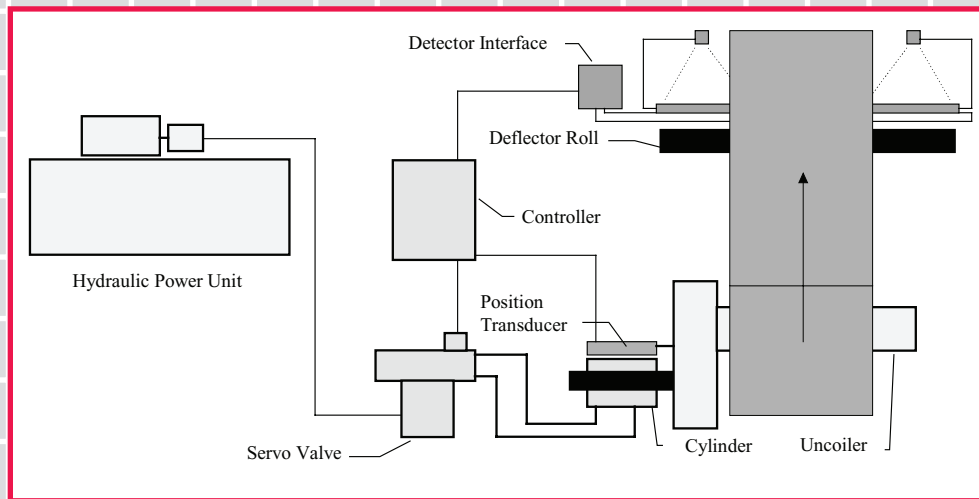


Uncoiler Center Guide Control System With Detector Located After Deflector/Flattener Roll(s)



This time lag compensation control system uses a center guide detector that is located in an alternate position: after the deflector/flattener roll(s). Positioning the detector in an alternate location creates time lag between the actuation point (uncoiler) and the resulting movement at the sensing point (detector). This time lag in the control loop results in poor performance when used with a conventional guiding system. For these applications, use of North American's unique time lag compensation controller results in acceptable control performance. However, not as accurate as that of a properly located real time system.

The detector senses both edges of the incoming strip and provides an analog output proportional to the lateral position of the strip. This signal is processed by the time lag compensation electronic controller. The electronic controller compares the detector signal to the set (guide) point, any difference results in an incremental output, relative to line speed, to the servo system which moves the uncoiler, positioning the strip until the strip is centered in the detector's field of view. The line speed reference signal provides strip footage count from the uncoiler to the detector location and the linear position transducer, mounted to the uncoiler, provides an analog output to close the loop of control. This results in the uncoiler sampling and holding the established lateral position of the strip centerline to the process centerline.

An electrical or mechanical strip offset control is available, which allows a user to shift the secondary detector's control (guide) point to a newly desired control (guide) point.

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